



A.D. 1874, 11th SEPTEMBER. N° 3122.

SPECIFICATION
OF
BRIDGE BARON STANDEN.

TREATING EXCREMENT.

LONDON:

PRINTED BY GEORGE E. FYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY:
PUBLISHED AT THE GREAT SEAL PATENT OFFICE,
25, SOUTHAMPTON BUILDINGS, HOLBORN.



A.D. 1874, 11th SEPTEMBER. N° 3122.

Treating Excrement.

LETTERS PATENT to Bridge Baron Standen, of Shipley, near Bradford, in the County of York, Manufacturing Chemist, for the Invention of "IMPROVEMENTS IN THE TREATMENT OF HUMAN EXCREMENT, BOTH SOLID AND LIQUID, AND ALSO OTHER ANIMAL URINE, AND IN THE APPARATUS EMPLOYED THEREIN."

Scaled the 5th March 1875, and dated the 11th September 1874.

PROVISIONAL SPECIFICATION left by the said Bridge Baron Standen at the Office of the Commissioners of Patents, with his Petition, on the 11th September 1874.

I, BRIDGE BARON STANDEN, of Shipley, near Bradford, in the County of York, Manufacturing Chemist, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN THE TREATMENT OF HUMAN EXCREMENT, BOTH SOLID AND LIQUID, AND ALSO OTHER ANIMAL URINE, AND IN THE APPARATUS, EMPLOYED THEREIN," to be as follows:—

The Invention relates to improvements on means described in the Specification of Letters Patent granted to me, bearing date the 11th of September 1872, No. 2687, for treating human excrement, both solid and liquid, and also other animal urine.

Standen's Improvements in Treating Human Excrement.

The matters to be operated upon are as in the Specification of my said former Letters Patent placed in a cistern or tank through a separator formed of sieve or other suitable reticulate work adapted to act as a screen to separate paper and other foreign matters of bulk from the other matters, and these matters are now thoroughly mixed in this 5 cistern by revolving agitators or stirrers. The matters thus collected and mixed in this cistern or tank are then, according to my present improvements, removed to another cistern or tank to be acted upon by sulphuric acid. The sulphuric acid is added as heretofore, until by the use of the ordinary tests a neutral state is obtained and the ammonia fixed. The 10 product obtained is now as heretofore transferred to another chamber, which when closed is heated to a high temperature by means of steam which is now applied in a jacket to the bottom and so as to rise partly up the sides or lower surface of this vessel. The vapour produced by this heating is conducted away by a pipe through suitable valve arrange- 15 ment, and is condensed in condensing chambers, and then cooled by being caused to circulate in cooling channels. After this evaporation by heat has been continued for some time the more solid portion is allowed to flow out from this heating chamber through a valve passage into a receiver in which such matter is allowed to cool, and when cooled it is 20 placed in a pan heated by steam applied to a bottom jacket, such pan having a moveable cover and an escape pipe, so that during the heating the vapours produced may be conducted away and condensed, as before stated. When the matters in this pan have been heated until they are of somewhat a pasty consistency the cover is removed and the product 25 transferred to trays which are placed in ovens, which are by preference heated by steam, and solid blocks are obtained. These blocks are then reduced into small particles for package and use.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Bridge Baron Standen in the Great Seal Patent 30 Office on the 8th March 1875.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, BRIDGE BARON STANDEN, of Shipley, near Bradford, in the County of York, Manufacturing Chemist, send greeting.

Standen's Improvements in Treating Human Excrement.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Eleventh day of September, in the year of our Lord One thousand eight hundred and seventy-four, in the thirty-eighth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Bridge Baron Standen, Her special license that I, the said Bridge Baron Standen, my executors, administrators, and assigns, or such others as I, the said Bridge Baron Standen, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "IMPROVEMENTS IN THE TREATMENT OF HUMAN EXCREMENT, BOTH SOLID AND LIQUID, AND ALSO OTHER ANIMAL URINE, AND IN THE APPARATUS EMPLOYED THEREIN," upon the condition (amongst others) that I, the said Bridge Baron Standen, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Bridge Baron Standen, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, that is to say :—

The Invention relates to improvements on means described in the Specification of Letters Patent granted to me, bearing date the 11th of September, 1872, No. 2687, for treating human excrement, both solid and liquid, and also other animal urine.

The matters to be operated upon are as in the Specification of my said former Letters Patent placed in a cistern or tank through a separator formed of sieve or suitable reticulate work, adapted to act as a screen to separate paper and other foreign matters of bulk from the other matters, and these matters are now thoroughly mixed in this cistern by revolving agitators or stirrers. The matters thus collected and mixed in this cistern or tank are then according to my present improvements removed to another cistern or tank to be acted upon by sulphuric acid. The

Standen's Improvements in Treating Human Excrement.

sulphuric acid is added as stated by me in my former Specification referred to, until by the use of the ordinary tests a neutral state is obtained and the ammonia fixed. The product obtained is now as heretofore transferred to another chamber, which when closed is heated to a high temperature by means of steam, which is now applied in a jacket 5 to the bottom and so as to rise partly up the sides or lower surface of this vessel. The vapour produced by this heating is conducted away by a pipe through suitable valve arrangement, and is condensed in condensing chambers, and then cooled by being caused to circulate in cooling channels. After this evaporation by heat has been continued 10 for some time the more solid portion is allowed to flow out from the heating chamber through a valve passage into a receiver, in which such matter is allowed to cool, and when cooled it is placed in a pan heated by steam applied to a bottom jacket, such pan having a moveable cover and an escape pipe, so that during the heating the vapours produced 15 may be conducted away and condensed, as before stated. When the matters in this pan have been heated until they are of somewhat a pasty consistency the cover is removed and the product transferred to trays which are placed in ovens, which are by preference heated by steam until solid blocks are obtained. These blocks are then reduced into 20 small particles for package and use.

Having thus described my improvements, and means which I adopt in carrying the same into effect, I would have it understood that what I claim is, the treatment of human excrement, both solid and liquid, and also other animal urine in the manner and by apparatus substantially as 25 described.

In witness whereof, I, the said Bridge Baron Standen, have hereunto set my hand and seal, this Fifth day of March, in the year of our Lord One thousand eight hundred and seventy-five.

B. B. STANDEN. (L.S.) 30

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1875.